

WHAT IS CLAIMED:

1. A system for transmitting data through an IP core network so that data may be transmitted from an originating source, though a public switched telephone network (PSTN) and through the IP core network to at least one of a
- 5 wired handset and a wireless handset, the system comprising:
- an IP core network,
- the IP core network coupled to the PSTN through an interface, the IP core network also coupled to an access IP network,
- a radio access network coupled to the IP core network and the wireless
- 10 handset,
- upon receipt of data from the originating source, the IP core network simultaneously initiating a ringing of the wired handset through the access IP network and a paging of the wireless handset through the radio access network.
- 15 2. The system of claim 1 wherein, upon receipt of an answer from a plurality of the handsets, the IP core network bridging an audio signal between the wired and wireless handsets.
3. The system of claim 1 wherein, upon receipt of an answer from a
- 20 plurality of the handsets, the IP core network bridging an audio signal between the wireless handset and a plurality of wired handsets.
4. The system of claim 1 wherein, upon receipt of an answer from a plurality of the handsets, the IP core network bridging an audio signal between a
- 25 plurality of wired handsets.
5. The system of claim 1 further comprising a user premise network coupled to the IP core network, the user premise network comprising at least one component selected from the group consisting of a modem, a cable modem, an
- 30 ISDN modem and a DSL modem.

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6. The system of claim 1 wherein the interface comprises a gateway and a gatekeeper.

7. The system of claim 1 wherein the interface comprises an H.323
5 gateway and an H.323 gatekeeper.

8. The system of claim 1 wherein the interface comprises a SIP server and an IP/PSTN gateway.

10 9. The system of claim 1 wherein the IP core network further comprises a location server node which determines the location of the wireless handset, and the IP core network, upon receipt of a signal from the location server node that the wireless handset is within a predetermined geographical area, simultaneously initiates the paging of the wireless handset through the radio access
15 network and the ringing of the wired handset.

10. The system of claim 9 wherein the IP core network initiates a ringing of the wired handset through the access IP network.

20 11. The system of claim 1 wherein the IP core network further comprises at least one feature server for providing call features for data being communicated from the IP core network to the wired and wireless handsets.

25 12. The system of claim 1 further comprising a user premise network comprising a TR57 interface for providing analog loop functions.

13. The system of claim 12 wherein the TR57 interface is coupled to an H.323 interface for converting voice data transmitted from the wired handset into H.323 protocol.

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14. The system of claim 12 wherein the TR57 interface is coupled to a SIP interface for converting voice data transmitted from the wired handset into SIP protocol.

5 15. The system of claim 7 wherein the H.323 gateway and H.323 gatekeeper are a part of the IP core network.

16. The system of claim 1 further comprising a user premise network comprising a RJ11 interface, a modem and a personal computer wherein the RJ11
10 interface is coupled to a modem and a personal computer.

17. The system of claim 1 wherein the access IP network is coupled to an Internet telephone and,
upon receipt of data from the originating source, the IP core network
15 simultaneously initiating a ringing of the wired handset, a paging of the wireless handset through the radio access network and a sending of a call message to the Internet telephone through the access IP network.

18. The system of claim 1 wherein the access IP network is coupled to
20 computer and,
upon receipt of data from the originating source, the IP core network simultaneously initiating a ringing of the wired handset, a paging of the wireless handset through the radio access network and a sending of a call message to the computer through the access IP network.

25 19. The system of claim 1 wherein the IP access network is coupled to a multimedia terminal.

20. A method for simultaneously paging a wireless handset and ringing a wired handset, the method comprising:

providing an IP core network that is coupled to a public switched telephone network (PSTN) through an interface, the IP core network also being coupled to an
5 access IP network,

providing a radio access network coupled to the IP core network and the wireless handset,

receiving data at the IP core network from the PSTN,

simultaneously initiating a ringing of the wired handset through the access IP
10 network and a paging of the wireless handset through the radio access network.

21. The method of claim 20 further comprising

providing a location server node,

determining a location of the wireless handset,

15 prior to simultaneously initiating the paging of the wireless handset through the radio access network and the ringing of the wired handset through the access IP network, sending a signal to the IP core network from the location server node indicating that the wireless handset is within a predetermined geographical area.

20 22. The method of claim 21 wherein the location server node forms part of the IP core network.

23. The method of claim 20 further comprising

25 providing at least one feature server for providing call features for data being communicated from the IP core network to the wired handset and the wireless handset.

24. The method of claim 20 wherein the feature server forms a part of the IP core network.

25. The method of claim 20 wherein the access IP network is coupled to an Internet telephone and,

upon receipt of data from the originating source, the IP core network simultaneously initiating a ringing of the wired handset, a paging of the wireless
5 handset through the radio access network and a sending of a call message to the Internet telephone through the access IP network.

26. The system of claim 20 wherein the access IP network is coupled to computer and,

10 upon receipt of data from the originating source, the IP core network simultaneously initiating a ringing of the wired handset, a paging of the wireless handset through the radio access network and a sending of a call message to the computer through the access IP network.

15 27. A system for transmitting data through an IP core network so that data may be transmitted from an originating source, through a public switched telephone network (PSTN) and through the IP core network to at least one of a wired handset and a wireless handset, the system comprising:

an IP core network comprising a location server node,
20 the IP core network coupled to the PSTN through an interface, the IP core network also coupled to an access IP network, the interface comprising a gateway and a gatekeeper,

a radio access network coupled to the IP core network and the wireless handset,

25 a user premise network coupled to the IP core network,

upon receipt of data from the originating source, the location server node determining the location of the wireless handset and, upon receipt of a signal from the location server node that the wireless handset is within a predetermined geographical area, the IP core network simultaneously initiating a paging of the

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wireless handset through the radio access network and a ringing of the wired handset and,

upon receipt of an answer from a plurality of the handsets, the IP core network bridging an audio signal between the wired and wireless handsets.